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SIGNIFICANT RESULTS OF MISSOURI AND NEW MEXICO COMMERCIAL EDUCATION SURVEYS¹

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The Missouri and New Mexico commercial education surveys were authorized by the commercial departments of the state teachers' associations. They had their origin in the wish of the commercial teachers of each state to inaugurate a constructive and comprehensive program of state-wide standardization of commercial education. To bring about such a standardization, the following procedure was used: (1) existing conditions were determined by means of a questionnaire, copies of which were mailed to all commercial teachers in each state; (2) a careful study of the questionnaire data was made to discover outstanding problems; (3) definite recommendations were made to the commercial department of each state teachers' association for the solution of these problems.

The purpose of this article is to acquaint school superintendents and commercial teachers with the significant results of the two surveys.

¹ The Missouri survey was conducted in the spring of 1916; the New Mexico survey, in the spring of 1917. The writer served as chairman of the committee for each survey.

QUALIFICATIONS OF COMMERCIAL TEACHERS

With reference to the training of commercial teachers, the survey data revealed two important facts:

1. The academic and professional qualifications of commercial teachers are very much higher than is commonly accepted in educational circles. In Missouri 50 per cent of the commercial teachers are graduates of a normal school, college, or university; in New Mexico 73 per cent. In Missouri an additional $33\frac{1}{3}$ per cent have attended one of these higher schools for a period of time ranging from three to twenty-six months; in New Mexico, an additional 18 per cent, from two to fifteen months.

2. Not a single commercial teacher of Missouri or New Mexico reported ever having had a normal-school, college, or university course in the teaching, for instance, of accounting¹ or stenography, the two traditional commercial subjects.

Higher institutions of learning which provide teacher-training courses have in general failed to offer adequate technical and pedagogic courses of study specifically designed for the training of prospective commercial teachers. Many of these same institutions have provided elaborate courses for the training of prospective home economics and manual arts teachers, for example, when at the same time (as in Missouri) the number of commercial teaching positions has been much larger than that of either home economics or manual arts.² With the continued rapid growth and

¹ The term "accounting" is used throughout the article to apply alike to book-keeping and accounting. From the teaching standpoint the writer holds that there is no distinction to be made, since the principles which underlie the subject of book-keeping are the same principles which underlie the subject of accounting. Mr. Roy B. Kester, instructor in School of Business, Columbia University, states in the introduction to his excellent new book, *Accounting Theory and Practice*: "The author does not know the difference between bookkeeping and accounting and doubts whether there is any except in popular parlance."

² Situation in Missouri in the spring of 1916:

State List of High School Teachers, City, and County Superintendents of Missouri, 1915-16 (Department of Education, Jefferson City, Missouri):

Number of commercial teachers.....	173, or 46 per cent
Number of home economics teachers.....	103, or 28 per cent
Number of manual arts teachers.....	97, or 26 per cent

B. F. Melcher, *Vocational Education for Missouri* (thesis submitted in partial fulfilment for the degree of Master of Arts at the University of Missouri):

High-school enrolment in commercial subjects.....	7,542, or 43.4 per cent
High-school enrolment in home economics.....	5,774, or 33.3 per cent
High-school enrolment in manual arts.....	4,947, or 23.3 per cent

The United States Bureau of Education has recently issued *Bulletin 1077, No. 38*, "Vocational Teachers for Secondary Schools—What the Land-Grant Colleges Are

standardization of commercial education in secondary schools, our state normal schools and university schools of commerce and education must see to it that a prospective commercial teacher has the same opportunity to become thoroughly educated in the technique and teaching of his special subjects as has a prospective home economics or manual arts teacher. When these institutions have remedied this serious shortcoming, then we shall not find it true that a large percentage of normal school and college or university graduates who have wished to become competent commercial teachers have found it advisable, if not necessary, to acquire, in addition, a business-college training.

EQUIPMENT OF COMMERCIAL DEPARTMENTS

The equipment of a commercial department may be considered under two headings: *machinery* equipment and *library* equipment.

The machinery equipment in both secondary and higher schools of Missouri and New Mexico consists almost entirely of typewriters and pencil-sharpeners. Such standard equipment as filing-cabinets,

Doing to Prepare Them." The title of this bulletin would indicate that the Bureau at last has interested itself in a question of vital concern to commercial education: What are the land-grant colleges doing to prepare commercial teachers for secondary schools? But not so. Commissioner Claxton, in his letter of transmittal, admits that the rapidly growing interest in vocational education in high schools "will create a demand larger than all our agencies are now able to supply for teachers of agriculture, trades and industries, and *commercial* and home economics subjects. The capacity of existing agencies must be increased or new agencies created. It is therefore desirable to know just what is now done by existing agencies," presumably for the preparation of commercial teachers as well as for the other three groups of vocational teachers. Yet Commissioner Claxton in his very next statement says that he has asked "Dr. C. D. Jarvis, specialist in agricultural education in this bureau, to prepare an account of what the land-grant colleges are doing to prepare teachers of agriculture home economics, and trades and industries for the secondary schools." Why was not Dr. Jarvis asked to include in the investigation an account of what is being done to prepare commercial teachers, since Commissioner Claxton admits that "existing agencies must be increased or new agencies created" to meet the growing demand for teachers of commercial education along with that for teachers of agriculture, manual arts, and home economics? A most perplexing problem of school superintendents all over the country is to find college-trained *commercial* teachers. Dr. Jarvis found that 40 of the land-grant colleges offer a special four-year curriculum for the training of agricultural teachers, 33 for home economics, and 14 for manual arts. A question that school superintendents, principals, and the profession of commercial education would like to have answered is: How many land-grant colleges offer a special four-year curriculum for the training of commercial teachers?

copyholders, adding machines, mimeographs, and multigraphs are the exception and not the rule. This situation is generally true all over the country. School superintendents should make every effort to remedy this serious defect. To quote from the 1916 report of the United States Commissioner of Education:

Schools are at present poorly equipped with commercial machinery to meet the demands of modern business training. In many large high schools where commercial students are numerous there are but one or two special machines, where there should be a dozen or more. . . . Filing devices, now the standard equipment in business houses, are just beginning to appear in the schoolroom, and in woefully inadequate amounts. There is needed immediately a formulation of standard commercial equipment for commercial schools, so many typewriters per hundred commercial pupils, so many multigraphs, dictaphones, adding machines, filing cabinets.¹

The library equipment of practically all commercial departments in Missouri and New Mexico is likewise deplorably weak. Rare are the schools which have a number of well-chosen references in such generally taught commercial subjects as commercial geography, commercial law, accounting, and office training, although a large number of high-grade books dealing with these subjects are obtainable.

The fundamental function of commercial education in our secondary schools is to teach the principles rather than the practice of business. The point of emphasis has been to imitate the *procedure* of business in an endeavor to provide business men with stenographers and bookkeepers who are thoroughly drilled in the *mechanics* of their subjects. We find, as a consequence, that commercial departments in general have tended to become business offices rather than classrooms. The business-office phase of commercial education, while essential, is of secondary importance; the primary consideration is the classroom phase of commercial education.

The proper economic and effective plan is for . . . the school to teach related theory (those aspects of business which can be organized into courses of instruction), and business to guide and counsel the teacher, and to offer the business house as the workshop of practical experience. The business house cannot make the best and most permanent achievement with "an actual

¹ *Report of the United States Commissioner of Education*, 1916, p. 223.

school in the business house," any more than the school has been able to succeed with the plan of "an actual business in the school."¹

Commercial education must become more energizing—work which calls forth energies that foster personal development; and less enervating—work which gives no mental stimulus and tends through its monotonous, dreary character to promote mental stagnation. Its guiding function must be to teach the *principles* rather than the *practice* of business. To accomplish this end an adequate commercial library is a first requisite. It is this first requisite which constitutes a strong commercial department.

BUSINESS CURRICULUM²

Our problem is: Do the commercial subjects which are generally taught train boys and girls for major business needs, it being accepted that the direct purpose of commercial education should be to train students for recognized commercial callings.³ Table I shows in the first column the six major commercial subjects in

TABLE I

Major Commercial Subjects in Missouri Secondary Schools	Major Commercial Callings for Men in Missouri*	Major Commercial Callings for Women in Missouri*
1. Accounting	1. Retail dealers	1. Stenographers and typists
2. Typewriting	2. Store salesmen	2. Store saleswomen
3. Stenography	3. Clerks (except clerks in stores)†	3. Bookkeepers, cashiers, and accountants
4. Commercial arithmetic	4. Clerks in stores†	4. Clerks in stores†
5. Commercial geography	5. Bookkeepers, cashiers, and accountants	5. Clerks (except clerks in stores)†
6. Commercial law	6. Stenographers and typists	6. Retail dealers

* *Thirteenth Census of the United States, 1910, Vol. IV, pp. 481-83.*

† Not salesmen and saleswomen, but those who do strictly clerical or office-routine work.

Missouri secondary schools in order of popularity as to number of schools offering each. The second column shows the six major

¹ F. V. Thompson, *Commercial Education in Public Secondary Schools* (Yonkers-on-Hudson, N.Y.: World Book Co., 1915), p. 17.

² By the term "Commercial Curriculum" is meant that group of studies which is schematically arranged for any student or group of students.

³ "Vocational Secondary Education," United States Bureau of Education, *Bulletin 1916, No. 21*, p. 43.

commercial callings for men in Missouri in order of popularity as to number of men engaged in each. The third column shows the six major commercial callings for women in Missouri in order of popularity as to number of women engaged in each. This table is a picture of substantially the same situation in Kansas City, St. Louis, New Mexico, and the United States considered as a whole.

At least six vital considerations are to be noted in this table:

1. Whereas *retail dealers* rank first and *stenographers and typists* rank last in importance with men, the reverse is true with women. Therefore, to meet the respective business needs of men and women in the order of their importance, a distinct boys' commercial curriculum and a distinct girls' commercial curriculum would seem to be needed. At the time of the Missouri survey (1916) no high school in that state provided such curricula.

2. Since *retail dealers* rank first in importance with men, a course of study in *retail organization and management* should be introduced. No Missouri high school in the spring of 1916 was offering such a course.¹

3. Since store salesmanship ranks second in importance for both men and women, a course of study in *salesmanship* should be introduced. Not a single high school in Missouri provided such a course at the time of the survey.²

4. The secondary commercial curricula, as usually found, meet, in the main, the future business needs of girls and ignore the future business needs of boys. "The truth is that boys and girls have

¹ The High School of Commerce, New York City, offers a course entitled "Merchandising and Office Work," but whether or not this course seeks to deal with problems of merchandising from the standpoint of retail dealers the writer does not know. The teachability of retail organization and management in secondary schools must remain an open question until this question is experimentally proved, and until a well-organized and properly graded subject-matter has been developed. But that such experimentation should begin, if it has not already, would seem warranted by the fact that *retail dealers* rank first among major commercial callings in which men are engaged.

² The teaching of salesmanship in public schools most likely began in Boston, where an experiment was begun in the evening schools as early as 1904. Since then its teaching has passed out of the experimental stage, and now we have a well-organized subject-matter embodied in a number of excellent textbooks. While salesmanship is generally taught in the secondary schools of our larger cities, it is rarely included in the curricula of our smaller cities and towns.

been trained alike for very different futures; and the kind of training that has been given is, in its general plan, suitable for girls and unsuitable for boys. This statement describes not only Cleveland's commercial schools; it applies to commercial education generally all over the country."¹

5. The *technical* commercial subjects which should be given first consideration in the forming of a commercial curriculum are: retail organization and management, salesmanship, accounting, stenography, and typewriting. The *general* commercial subjects which probably deserve first thought are: business English, business arithmetic, commercial geography, and penmanship.²

6. In organizing a standard commercial curriculum to include these fundamental technical and general subjects, it is obvious that the subjects should be so arranged among the four years of high school that the study of one will build for another, as penmanship and business arithmetic for accounting, or typewriting and business English for stenography. The surveys, on the contrary, showed that Missouri and New Mexico schools have no common agreement at all as to the best year or the most effective order in which to teach the various commercial subjects. Accounting and stenography, for instance, are taught in every year of high school.

COURSES OF STUDY³

1. *Standard speed and accuracy requirements in stenography and typewriting to govern dictation, transcription, and copy work.*—The

¹ Bertha M. Stevens, *Boys and Girls in Commercial Work* (New York City: Russell Sage Foundation), p. 135.

² The question may be asked: How can a small commercial department with only one teacher hope to offer all these fundamental technical and general subjects? This can be done only by the co-operation of the other departments. The writer maintains that business arithmetic should be taught by the mathematics department, business English by the English department, and commercial geography by the social science department; for do we not mean by business arithmetic, business English, and commercial geography those parts of the subject-matter of arithmetic, oral and written English, and geography a knowledge of which is most needed in the workaday world; and hence what other kind of knowledge can these departments most defensively teach than that knowledge which is most useful in everyday life?

³ By the term "Course of Study" is meant the quality, quantity, arrangement, and method of the subject-matter of any given commercial subject; that is, a commercial curriculum is made up of commercial courses of study.

data of the Missouri investigation, as did that of New Mexico, disclosed an utter lack of definite standards on the part of most schools, both secondary and higher; and among those schools which have definite standards there is to be found practically no agreement, but on the contrary quite absurd variations.

In stenography no school has a dictation speed requirement for the first semester; for the second semester the requirement varies from 45 to 75 words a minute; for the third semester from 75 to 100; for the fourth semester, from 100 to 125. For one school to say that the dictation speed requirement for graduation, at the close of two years' work, should be 100 words a minute, another, 110, and still a third, 125, presents a wide range of differences which would seem to indicate that these requirements have been based upon mere opinion, colored by the judgment of experience, and not upon reliable data gathered in a scientific investigation. To contend for a standard set of dictation speed requirements in stenography presupposes, of course, a standard set of dictation material of graded difficulty

In typewriting there exists an analogous situation. In Missouri, for the first semester, two schools reported a net speed requirement of 20 words a minute; for the second semester the requirement varied from 25 to 40; for the third semester, from 35 to 40; for the fourth semester, from 30 to 60.¹ An examination of these absurdly divergent requirements is proof enough of the present "rule-of-thumb" standards which prevail in typewriting.

To govern the transcription of stenographic notes no Missouri high school gave a definite set of speed and accuracy standards; and for typewriting only one high school indicated an accuracy requirement. This standard permitted 15 errors in a ten-minute test, and it applied alike to second, third, and fourth semesters.

These results point most emphatically to the need of a *scientifically derived* set of standard speed and accuracy requirements in stenography and typewriting to govern dictation, transcription,

¹ In noting that 35 is the lowest rate a minute for the third semester while 30 is the lowest rate a minute for the fourth semester, it must be remembered that these are requirements of different schools. Very few schools reported a complete set of standards.

and copy work. A lack of such guide-posts of possible achievement is indicative of costly aimlessness in the training of prospective stenographers and typists.

2. *The recitation method in typewriting.*—Of the commercial departments in Missouri and New Mexico 50 per cent fail to provide definite class instruction in typewriting, and of this 50 per cent less than 20 per cent provide *daily* class drill work. This very bad situation is due, in most cases, not to the folly of the commercial teacher, but to that of the principal or superintendent who assigns the commercial teacher too heavy a day's schedule to admit the teaching of typewriting. Such a principal or superintendent would laugh at one who would be foolish enough to say that his daughter, Mary, can best learn the technique of piano-playing without the aid of an instructor. All she needs is a manual to guide her. And yet the sensory and motor activities involved in the mastery of the piano are very much like those involved in the mastery of the typewriter.

The recitation method in typewriting produces a far more rapid and superior progress of students. Typewriting, being primarily a drill subject, demands the closest supervision on the part of the instructor in building up in the student correct motor and mental habits. The one efficient way to guide the student in the proper fixing of these motor and mental habits is to have definite daily classwork in terms of word drills, alphabetic and speed sentence drills, copy work, and transcription practice. A commercial teacher can as ill afford to forego classwork in typewriting as he can in stenography. Such a teacher needs to keep in mind that the business test of a good stenographer is not in the quality of his notes but in the quality of the typewritten product which is turned out. It is this which the business man reads and judges.

3. *The recitation method in accounting.*—There are two outstanding and diametrically opposed tendencies in the teaching of accounting. One of these tendencies is to emphasize "actual office practice" and to reduce to a minimum "actual recitation work"; the other tendency is to emphasize "actual recitation work" and to reduce to a minimum "actual office practice." The

first method usually calls for the use of all ten periods a week as laboratory periods; the second method calls for a definite number of recitation periods and a definite number of laboratory periods each week.

The surveys divulged that there exists among Missouri and New Mexico secondary and higher commercial schools no uniform ratio of recitation periods to laboratory periods. We have the following array of different ratios represented in the reports, recitation periods being indicated by the first number: 0-10, 1-9, 2-8, 3-7, 5-5, 1-4, 3-1, 4-1, and 5-0. These ratios, it is seen, reveal the greatest possible extremes from no recitation periods and all laboratory periods to all recitation periods and no laboratory periods. The most popular ratio is 0-10, representing $33\frac{1}{3}$ per cent of the schools.

It is the writer's teaching experience that the 5-5 plan, or the daily recitation and the daily laboratory plan, is the one which is most practicable. That is a question, however, which must be made a subject of painstaking investigation; but that certain definite periods a week should be set aside for recitation work is now accepted by the best accounting teachers throughout the country. Business demands bookkeepers who know the principles of accounting, and such principles are most effectively taught by the recitation method. Only such laboratory work is needed as will *set* these principles. The significant fact shown in the Cleveland Survey is that it is the concerted plea of employers "that it is principles and not systems that pupils should know."¹

This method of teaching accounting calls for a textbook for classwork and a manual for laboratory work, the textbook to deal with the principles of accounting and the manual to be a collection of business transactions to serve as a basis of application for the principles studied in class. Such a method does away with many wasteful practices now current among commercial teachers, as the superfluous use of business papers. Nor is there any longer a legitimate use for those so-called textbooks which tell students exactly how to journalize each transaction and what to do with each business paper.

¹ Bertha M. Stevens, *Boys and Girls in Commercial Work* (New York City: Russell Sage Foundation), p. 151.

EDUCATIONAL MEASUREMENTS

The surveys disclosed practically an absolute indifference on the part of commercial teachers in the use of those educational measurements¹ and business employment tests² which apply to such commercial subjects as business arithmetic, business English, and penmanship. That such is true would seem to indicate that in general school superintendents themselves have not come to appreciate the significance of these measurements and tests in the work of their commercial departments.

These "yardsticks" are of vital importance in testing alike the efficiency of commercial students and that of teachers. Lack of proper teaching causes as many student failures as lack of proper study. The question of educational measurements and business employment tests as applied to commercial teaching is one which should command most earnest thought of alert commercial teachers all over the country. It is this question which will become one of the basic factors in bringing about a thoroughgoing and statewide standardization of commercial education—a result which is imperatively needed throughout the country and the beginnings of which are now taking place in Missouri and New Mexico as an outgrowth of the recent surveys.

RECAPITULATION³

1. The academic and professional qualifications of commercial teachers are very much higher than is commonly accepted in educational circles.
2. Higher institutions of learning which provide teacher-training courses have in general failed to offer adequate technical and

¹ A recent and excellent book, designed primarily for teachers, is Monroe, DeVoss, and Kelley, *Educational Tests and Measurements* (Boston: Houghton, Mifflin Co.).

² An admirable series of such tests is Sherwin Cody, *National Business Ability Tests* (Chicago: National Associated Schools of Scientific Business).

³ As a result of the New Mexico survey the commercial department of the New Mexico Educational Association, at its recent meeting at Santa Fe, November 26, adopted a constructive and comprehensive program of standardization which will be carried on throughout the year by a series of committees, each with its separate and definite task, which will report their findings at the next regular session of the department.

pedagogic courses of study specifically designed for the training of commercial teachers.

3. The commercial machinery equipment in both secondary and higher schools is seriously inadequate.

4. There should be a standardization of amount and kind of commercial machinery equipment.

5. The library equipment of practically all commercial departments is deplorably weak. The fundamental function of a commercial department is to teach the *principles* rather than the *practice* of business, and to do this properly an adequate commercial library is a first requisite.

6. The *technical* commercial subjects which should be given first consideration in the forming of a commercial curriculum are retail organization and management, salesmanship, accounting, stenography, and typewriting. The *general* commercial subjects which probably deserve first thought are business English, business arithmetic, commercial geography, and penmanship.

7. There should be a standardization of the proper year of high school in which to offer each commercial subject.

8. There should be a standardization of speed and accuracy requirements in stenography and typewriting to govern dictation, transcription, and copy work.

9. The daily recitation method should prevail in the teaching of typewriting.

10. The daily recitation method should prevail in the teaching of accounting.

11. The question of educational measurements and business-employment tests is one which should command most earnest thought of alert commercial teachers.